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Robert G. Arther

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BAYER HEALTHCARE LLC

P.O.BOX 390

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EXAMINER

QAZI, SABIHA NAIM

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

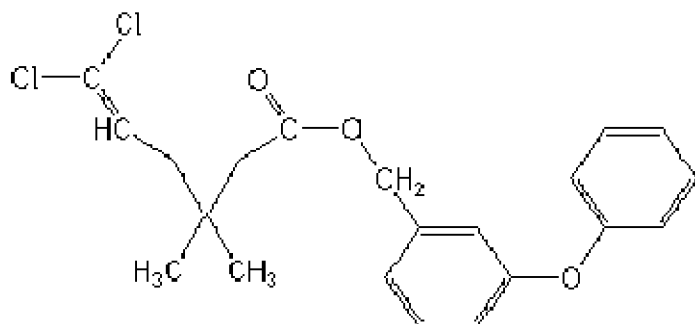


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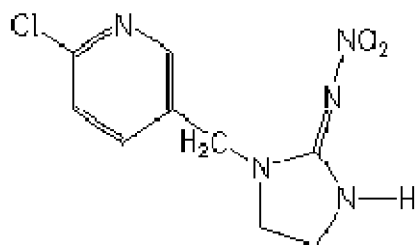
**Final Office Action**

Claims 21 and 24 are pending. Amendments are entered. No claim is allowed.

Applicant elected without traverse the claims directed to the combination specific pyrethroid and chloronicotinyl: permethrin and imidacloprid, respectively.

**Permethrin**

and

**Imidacloprid**

Rejections not reiterated from previous office actions are hereby withdrawn. The following rejections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

**Claim Rejections - 35 USC § 103---1<sup>st</sup> Rejection**

Claims 21 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dorn et al.

(US Patent 6,232,328).

Dorn et al. teach the combination of pyrethroid and nicotinylic compound specifically imidacloprid and permethrin for the control of parasitic insects such as fleas, lice and flies, which embrace presently, claimed invention. See the entire document especially lines 8-10 and lines 35-68 in col. 17; lines 21 and 22 in col. 18; lines 5-10, lines 25-30 in col. 1; lines 5-10 in column 17 and lines 21 and 22 in column 18. Imidacloprid is disclosed in lines 20-25 column 4 and permethrin which is 3-phenoxybenzyl(+.-)-cis, trans-3-(2,2-dichlorovinyl)-2,2-dimethyl-cyclopropanecarboxylate, is particularly disclosed in lines 21 and 22 in column 18. The reference further teaches that active compounds can be present in the form of a mixture with synergists or other active compounds. The active compounds include natural or synthetic pyrethroids.

Instant claims differ from the reference in that they are of different generic scope. It had been decided by Courts that the indiscriminate selection of “some” from among “many” is considered prima facie obvious. In re Lemin, 141 USPQ

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814 (1964); National Distillers and Chem. Corp. V. Brenner, 156 USPQ 163.

Claim 22 differs from the reference in claiming specific ranges.

The instant claimed compounds would have been obvious because one skilled in the art would have been motivated to prepare compounds embraced by the genus of the above cited references with the expectation of obtaining additional beneficial compounds. The instant claimed compounds would have been suggested to one skilled in the art.

One having ordinary skill in the art would have been motivated to select the claimed compounds from the genus in the reference since such compounds would have been suggested by the reference as a whole. It has been held that a prior art disclosed genus of useful compounds is sufficient to render prima facie obvious a species falling within the genus. In re Susi, 440 F.2d 442, 445, 169 USPQ 423, 425 (CCPA 1971), followed by the Federal Circuit in Merck & Co. V. Biocraft Laboratories, 874 F.2d 804, 10 USPQ 2d 1843, 1846 (Fed. Cir. 1989).

*It would have been obvious to one skilled in the art at the time of invention to prepare additional beneficial composition for controlling insects because prior art teaches control of insects by the same combination of compounds as taught by*

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*the prior art. Since the synergistic combination is taught by the prior art therefore there is a motivation to prepare the formulation for controlling insects.*

Dorn et al. teaches the combination of pyrethroid and nicotinylic compound for the control of parasitic insects such as fleas, lice and flies. Furthermore, it also teaches that the active compounds can be present in the form of a mixture may be synergists or other active compounds such as pyrethroids etc., see lines 5-10 in col. 17.

The ratio and combination would have been a routine experimentation because it was known that synergism exist between these compounds as taught by the prior art.

*The present specification discloses the combination of a pyrethroid and a chloronicotinyl insecticide which provides enhanced activity against ticks and mites, while maintaining the activity of chloronicotinyl compounds against flees”, (lines 20-23 on page 3). Synergistic effect of the combination with chloronicotinylic (imidacloprid) and pyrethroid (permethrin) is disclosed. Since prior art teaches synergistic effect of such combinations, one skilled in the art would expect synergism with any combination such as imidacloprid and permethrin, which are active compounds and has been presently claimed.*

It is *prima facie* obvious to combine two compositions each of which is

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taught by the prior art to be useful for the same purpose in order to form a third composition that is to be used for the very same purpose; the idea of combining them flows logically from their having been individually taught in the prior art. In re Kerkhoven, 205 USPQ 1069.

*In the light of the forgoing discussion, the Examiner's ultimate legal conclusion is that the subject matter defined by the instant claims would have been obvious within the meaning of 35 U.S.C. 103(a).*

**Claim Rejections - 35 USC § 103---2<sup>nd</sup> Rejection**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to

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which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 21 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sirinyan et al (US Patents 6,001,858).

Sirinyan et al. US '858 teaches the combination of imidacloprid and permethrin for the dermal control of parasitic insects. See the abstract, and lines 35-40 in column 4 for imidacloprid and lines 1-2 in column 9 where these compounds are disclosed. See also lines 25-34 in column 8.

Instant claims differ from the reference in having different generic scope.

Prior art teaches the combination of imidacloprid and permethrin that the active compounds can be present in the form of a mixture may be synergists with other active compounds such as pyrethroids etc., see lines 5-10 in col. 17. Permethrin is particularly disclosed in lines 21 and 22 in column 18.

Since prior art teaches that imidacloprid is synergistic with various pyrethroids and Dorn et al teaches combination of permethrin and imidacloprid may be synergistic one skilled in the art would expect that combination of imidacloprid and permethrin would be synergistic seeing the teaching of prior art.



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It would have been obvious to one skilled in the art at the time of invention to prepare additional beneficial composition for controlling insects because prior art teaches control of insects by the same combination of compounds as taught by the prior art. Since the synergistic combination is taught by the prior art therefore there is a motivation to prepare the formulation for controlling insects. The combination would have been a routine experimentation because it was known that synergism exist between these compounds as taught by the prior art.

The data of the combination with chloronicotinylic (imidacloprid) and pyrethroid (permethrin) is disclosed on pages 16-19, Tables 1-4. The data presented is not synergistic. Even if it had been synergistic since prior art teaches synergistic effect of such combinations, one skilled in the art would expect synergism with the combination such as imidacloprid and permethrin because they are most effective agents.

**In the light of the forgoing discussion, the Examiner's ultimate legal conclusion is that the subject matter defined by the instant claims would have been obvious within the meaning of 35 U.S.C. 103(a).**

**Claim Rejections - 35 USC § 103---3<sup>rd</sup> Rejection**

Claims 21 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over ELBERT et al. (Brighton crop protection Conference, 1990, pages 21-28) and Shiokawa et al. (US Patent 4,742,060). These references teach the use of imidacloprid alone or in combination with other fungicide for the *treatment of soil for pests*, which embraces Applicants claimed invention.

**ELBERT reference**

The reference teaches imidacloprid for seed treatment and Cofidor for foliar and *soil* application. See the entire document especially abstract (last 5 lines),

The reference teaches that biological efficacy of imidacloprid was tested after foliar application. Systemic properties and residual effect against early season pests were determined after homogenous incorporation of the imidacloprid into *soil*, seed treatment or seedling box application. See last paragraph on page 22.

The reference also teaches that the outstanding systemic properties of *imidacloprid* make it excellent for soil and seed treatment against sucking insects, see Table 2, also see top two lines above table 2 on page 23.

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Furthermore, it also teaches the control of cotton pests see Fig 4 on page 26. It also teaches that imidacloprid provides good control of the following important pests in maize, *Heteronychus arator*, *Phyllophage spp.* *Protostrophus spp.*, *Astylus atromaculatus*, *Buohonella murine*, O. frit, various species of termites, aphids, jessids, and thrips as foliar pests. See Fig 5 on page 27.

The reference further teaches that imidacloprid is particularly suitable for the treatment pelleted sugar beet seed to protect against infestation with early season pests. It controls the soil pests pigmy mangold beetle *Atomaria Linearis*, wireworms, *Agriotes sp.*, and many others. Because of its systemic properties imidacloprid also controls foliar pests in sugar beet such as virus vector aphids and beet fly. (last paragraph on page 27

See also page 28.

SHIOKAWA et al. (US Patent 4,742,060)

Shiokawa reference teaches the imidacalprid (compound 11 (example 11ii) in column 58), which is an old insecticide, applied to same locus (wood) of claims. See lines 45-49 in col. 51; lines 35 and 36 in col. 52; lines 61-67 in col. 53; lines 1-22 in col. 54. See column 12, lines 50-51 and 54, lines 18-20; the same compound is disclosed, see column 58, lines 30-35. See also the entire document, examples and claims.

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The reference teaches that the compounds of the invention can be used as insecticides and can be used for control and eradication of wide range of pests.

See lines 1-4 in col. 51;

Shiokawa teach the ranges as presently claimed, see lines 10-15 in column 54, where active compounds concentration for use can be 0.0000001 to 100% by weight of the active compound. The reference also teaches that same insects for treatments (disclosed on pages 6 and 7 of present specification) may be combated; see lines 60-67, col. 53. It also teaches that that the other active compounds such as fungicides may be combined with imidazolidine insecticides.

Instant claims differ from the reference in claiming a broader scope of fungicides.

It would have been obvious to one skilled in the art to be motivated to prepare additional beneficial use of imidacloprid because the references teach that imidacloprid controls resistant insect, has a broad spectrum of activity especially against sucking pests. Shikowa teaches the combination of fungicides. Therefore, the claimed invention, as a whole would have been *prima facie* obvious to one skill in the art at the time of the invention was made, because every element of the

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invention and the claimed invention as a whole is fairly suggested by the combined teachings of the references.

Accordingly, the burden of proof is upon applicants to show that instantly claimed subject matter is different and unobvious over those taught by prior art. See *In re Brown*, 173 USPQ 685, 688; *In re Best*, 195 USPQ 430 and *In re Marosi*, 218 USPQ 289, 293.

In the light of the forgoing discussion, the Examiner's ultimate legal conclusion is that the subject matter defined by the instant claims would have been obvious within the meaning of 35 U.S.C. 103(a).

**Claim Rejections - 35 USC § 103---4<sup>th</sup> Rejection**

Claims 21 and 24 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Dorn et al., JP 3279359 (IDS reference filed on 11/14/2008) and SHIOKAWA et al. (US Patent 4,742,060).

Shiokawa reference teaches the imidacalprid (compound 11 (example 11ii) in column 58), which is an old insecticide, applied to same locus (wood) of claims. See lines 45-49 in col. 51; lines 35 and 36 in col. 52; lines 61-67 in col. 53; lines 1-22 in col. 54. See column 12, lines 50-51 and 54, lines 18-20; the same compound

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is disclosed, see column 58, lines 30-35. See also the entire document, examples and claims. The reference teaches that the compounds of the invention can be used as insecticides and can be used for control and eradication of wide range of pests. See lines 1-4 in col. 51.

Shiokawa teach the ranges as presently claimed, see lines 10-15 in column 54, where active compounds concentration for use can be 0.0000001 to 100% by weight of the active compound. The reference also teaches that same insects for treatments (disclosed on pages 6 and 7 of present specification) may be combated; see lines 60-67, col. 53. It also teaches that that the other active compounds such as fungicides may be combined with imidazolidine insecticides.

JP reference teaches imidacloprid for controlling pests which includes **mites**.

**(US Patent 6,232,328).**

Dorn et al. teach the combination of pyrethroid and nicotinylic compound specifically imidacloprid and permethrin for the control of parasitic insects such as fleas, lice and flies, which embrace presently, claimed invention. See the entire document especially lines 8-10 and lines 35-68 in col. 17; lines 21 and 22 in col. 18; lines 5-10, lines 25-30 in col. 1; lines 5-10 in column 17 and lines 21 and 22 in column 18. Imidacloprid is disclosed in lines 20-25 column 4 and permethrin which is 3-phenoxybenzyl(+.-)-cis, trans-3-(2,2-dichlorovinyl)-2,2-dimethyl-

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cyclopropanecarboxylate, is particularly disclosed in lines 21 and 22 in column 18. The reference further teaches that active compounds can be present in the form of a mixture with synergists or other active compounds. The active compounds include natural or synthetic pyrethroids.

Instant claims differ from the reference in that they are of different generic scope. It had been decided by Courts that the indiscriminate selection of “some” from among “many” is considered prima facie obvious. In re Lemin, 141 USPQ 814 (1964); National Distillers and Chem. Corp. V. Brenner, 156 USPQ 163. Claim 22 differs from the reference in claiming specific ranges.

The instant claimed compounds would have been obvious because one skilled in the art would have been motivated to prepare compounds embraced by the genus of the above cited references with the expectation of obtaining additional beneficial compounds. The instant claimed compounds would have been suggested to one skilled in the art.

One having ordinary skill in the art would have been motivated to select the claimed compounds from the genus in the reference since such compounds would have been suggested by the reference as a whole. The ranges are taught by SHIOKAWA. It has been held that a prior art disclosed genus of useful

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compounds is sufficient to render prima facie obvious a species falling within the genus. In re Susi, 440 F.2d 442, 445, 169 USPQ 423, 425 (CCPA 1971), followed by the Federal Circuit in Merck & Co. V. Biocraft Laboratories, 874 F.2d 804, 10 USPQ 2d 1843, 1846 (Fed. Cir. 1989).

It would have been obvious to one skilled in the art at the time of invention to prepare additional beneficial composition for controlling insects because prior art teaches control of insects by the same combination of compounds as taught by the prior art. Since the synergistic combination is taught by the prior art therefore there is a motivation to prepare the formulation for controlling insects.

Dorn et al. teaches the combination of pyrethroid and nicotinylic compound for the control of parasitic insects such as **fleas**, lice and flies. Furthermore, it also teaches that the active compounds can be present in the form of a mixture may be synergists or other active compounds such as pyrethroids etc., see especially lines 5-10 in col. 17.

The ratio and combination would have been a routine experimentation because it was known that synergism exist between these compounds as taught by the prior art. The data presented in Tables 1-4 (pages 16-19) is expected.



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The present specification discloses the combination of a permthrin (pyrethroid) and a imidacloprid (nicotinylic) was effective against **ticks and fleas**. It would be expected to be effective against **mites** as they have a response similar to ticks (example 2, lines 19-22, page2), Synergistic effect of the combination with imidacloprid and permethrin is disclosed. Since prior art teaches synergistic effect of such combinations, control of parasitic insects such as **fleas** one skilled in the art would expect synergism with any combination such as imidacloprid and permethrin, which are active compounds and has been presently claimed. Since DORN teaches the control of fleas, it would be expected to control mites and ticks because the response is expected to be similar.

It is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose in order to form a third composition that is to be used for the very same purpose; the idea of combining them flows logically from their having been individually taught in the prior art. In re Kerkhoven, 205 USPQ 1069.

In the light of the forgoing discussion, the Examiner's ultimate legal conclusion is that the subject matter defined by the instant claims would have been obvious within the meaning of 35 U.S.C. 103(a).

### **Response to Remarks**

Applicants argue that reference fails to teach the control of mites and ticks. The Examiner would like to draw the attention of Applicants that claims are drawn to composition and not the methods. Even in a case where the reference does not teach the same use of the composition, the two different intended uses are not distinguishable in terms of the composition, see *In re Thuau*, 57 USPQ 324; *Ex parte Douros*, 163 USPQ 667; and *In re Craige*, 89 USPQ 393.. Since both the compounds are known for same use it is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose in order to form a third composition that is to be used for the very same purpose; the idea of combining them flows logically from their having been individually taught in the prior art. *In re Kerkhoven*, 205 USPQ 1069.

### **Conclusion**

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is

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filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### **Communication**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sabiha Qazi whose telephone number is (571) 272-0622. The examiner can normally be reached on any business day except Wednesday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Krass Frederick can be reached on (571) 272-0580. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sabiha Qazi/

Primary Examiner, Art Unit 1612